AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A curable resin composition,

which contains a curable resin to be cured by light and/or heat and a polymerization initiator, the curable resin containing~~being~~ a (meth)acrylic acid-modified epoxy resin obtained~~obtainable~~ by reaction of a crystalline epoxy resin and (meth)acrylic acid.

2. (original): The curable resin composition according to claim 1,

wherein the (meth)acrylic acid-modified epoxy resin is crystalline.

3. (currently amended): The curable resin composition according to claim 2~~claim 1 or 2~~,

wherein the (meth)acrylic acid-modified epoxy resin has a melting point of 80°C or lower.

4. (currently amended): The curable resin composition according to claim 1, ~~2 or 3,~~

wherein the (meth)acrylic acid-modified epoxy resin contains 5 to 10 sulfur atoms and oxygen atoms in total in the resin skeleton.

5. (currently amended): The curable resin composition according to claim 4~~claim 1, 2, 3 or 4~~,

wherein the (meth)acrylic acid-modified epoxy resin has a value of 0.08 to 0.14 calculated by dividing the total number of the sulfur atoms and oxygen atoms in the resin skeleton by the total number of atoms.

6. (original): A curable resin composition,

which contains a curable resin to be cured by light and/or heat and a polymerization initiator, the polymerization initiator is a radical polymerization initiator having a radical polymerization initiating group to be dissociated into two active radical species by light and/or heat radiation and a hydrogen-bonding functional group in one molecule.

7. (original): The curable resin composition according to claim 6,

wherein both of two active radical species produced by dissociation of the radical polymerization initiating group by light and/or heat radiation respectively have at least one hydrogen-bonding functional group.

8. (currently amended): The curable resin composition according to claim 6 ~~or 7~~,

wherein the radical polymerization initiator further has two or more reactive functional groups in one molecule.

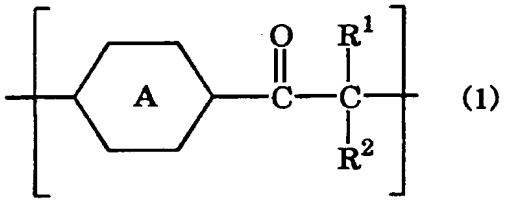
9. (original): The curable resin composition according to claim 8,

wherein both of two active radical species produced by dissociation of the radical polymerization initiating group by light and/or heat radiation respectively have at least one hydrogen-bonding functional group and at least one reactive functional group in one molecule.

10. (currently amended): The curable resin composition according to claim 6, ~~7, 8 or 9,~~

wherein the radical polymerization initiating group has the structure represented by the following general formula (1):

[Chemical formula 1]



(1)

in the formula (1), R^1 and R^2 respectively represent a hydrogen atom, a hydroxyl group, an alkyl group having 1 to 6 carbon atoms, an alkoxy group having 1 to 6 carbon atoms or a phenyl group, and

[Chemical formula 2]

represents an aromatic ring optionally having an alkyl group having 1 to 6 carbon atoms or a halogen group.

11. (currently amended): The curable resin composition according to claim 8~~claim 6, 7, 8, 9 or 10~~,

wherein at least one of the reactive functional groups is a (meth)acryl group and/or a cyclic ether group.

12. (currently amended): The curable resin composition according to claim 6, ~~7, 8, 9, 10 or 11,~~

wherein the hydrogen-bonding functional group is an urethane group and/or a hydroxyl group.

13. (currently amended): The curable resin composition according to claim 6, ~~7, 8, 9, 10, 11 or 12,~~

wherein the radical polymerization initiator has a number average molecular weight of 300 or higher.

14. (currently amended): The curable resin composition according to claim 6, ~~7, 8, 9, 10, 11, 12 or 13,~~

wherein the radical polymerization initiator has a molar absorbance coefficient of 200 to 10,000 $M^{-1} \cdot cm^{-1}$ at 350 nm measured in acetonitrile.

15. (original): The curable resin composition according to claim 14,

wherein the radical polymerization initiator has a molar absorbance coefficient of 100 $M^{-1} \cdot cm^{-1}$ or lower at 430 nm measured in acetonitrile.

16. (original): A curable resin composition,

which contains a curable resin to be cured by light and/or heat, a polymerization initiator and an adhesive aid, the adhesive aid being an alkoxysilane compound having a molecular weight of 500 or higher and/or an alkoxysilane compound having a molecular weight of 200 or higher and a hydrogen-bonding functional group value of 2×10^{-3} to 7×10^{-3} mol/g.

17. (original): The curable resin composition according to claim 16,

wherein the alkoxysilane compound has at least one polymerizable functional group and/or reactive functional group.

18. (original): The curable resin composition according to claim 17,

wherein the polymerizable functional group and/or the reactive functional group is at least one selected from the group consisting of an epoxy group, an acryloyl group and a methacryloyl group.

19. (original): A curable resin composition,

which contains a curable resin to be cured by light and/or heat, a polymerization initiator and a resin fine particle, the resin fine particle having a core particle made of a resin having rubber elasticity and a glass transition temperature of -10°C or lower and a shell layer made of a resin having a glass transition temperature of 50 to 150°C, being formed on the surface of the core particle, a cured product having a glass transition temperature of 120°C or higher measured by dynamic mechanical analysis (DMA) under conditions of temperature rising rate of 5°C/min and of a frequency of 10 Hz.

20. (original): The curable resin composition according to claim 19,

wherein the resin fine particle has an average particle diameter of 0.01 to 5 μm.

21. (currently amended): The curable resin composition according to claim 19 ~~or 20~~,

wherein the resin having rubber elasticity and a glass transition temperature of -10°C or lower is a polymer obtained by polymerizing~~of~~ a (meth)acrylic monomer.

22. (currently amended): The curable resin composition according to claim 19, ~~20 or 21,~~ which has an adhesive strength of 150 N/cm^2 or higher in the case of being used for adhesion of glass substrates and being cured.

23. (original): A curable resin composition,

which contains a curable resin to be cured by light and/or heat, a polymerization initiator and an inorganic particle having an average particle diameter of 1 μm or smaller, the average coefficient of linear expansion α_1 being 1×10^{-4} to 5×10^{-4}/°C in a range from a temperature lower than a glass transition temperature of the cured product cured only by light by 40°C to a temperature lower than the glass transition temperature by 10°C and an average coefficient of linear expansion α_2 being 2×10^{-4} to 1×10^{-3}/°C in a range from a temperature higher than the glass transition temperature by 10°C to a temperature higher than the glass transition temperature by 40°C.

24. (original): A curable resin composition,

which contains a curable resin to be cured by light and/or heat, a polymerization initiator and an inorganic particle having an average particle diameter of 1 μm or smaller, the average coefficient of linear expansion α_1 being 5×10^{-5} to 1×10^{-4}/°C in a range from a temperature lower than a glass transition temperature of the cured product cured by light and heat by 40°C to a temperature lower than the glass transition temperature by 10°C and an average coefficient of linear expansion α_2 being 1×10^{-4} to 3×10^{-4}/°C in a range from a temperature higher than the glass

transition temperature by 10°C to a temperature higher than the glass transition temperature by 40°C.

25. (currently amended): The curable resin composition according to claim 23 ~~or 24~~,

wherein a blending amount of the inorganic particle is 10 to 20 parts by weight to the curable resin 100 parts by weight.

26. (original): A curable resin composition,

which contains a particle having a particle diameter equal to or larger than a distance between substrates of an aimed liquid crystal display element in a content of 30% by weight or lower.

27. (original): A method of producing a curable resin composition,

which comprises a step of filtering using a filter after mixing a component composing the curable resin composition.

28. (original): The method of producing a curable resin composition according to claim 27,

wherein the filter has capture efficiency of 70% or higher of a particle having a particle diameter equal to or larger than a distance between substrates of the aimed liquid crystal display element.

29. (currently amended): The method of producing a curable resin composition according to claim 27 ~~or 28~~,

wherein the filter has air flow resistance of 10 mm H_2O or higher in the case air is passed at pressure of 4.6 N/cm^2 and at a flow rate of 2 L/min.

30. (currently amended): A sealant for a liquid crystal display element,

which comprises a curable resin composition according to claim 1~~, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25 or 26.~~

31. (currently amended): An end-sealant for a liquid crystal display element,

which comprises a curable resin composition according to claim 1~~, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25 or 26.~~

32. (currently amended): A transfer material for a liquid crystal display element,

which contains the curable resin composition according to claim 1~~claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25 or 26~~ and a conductive fine particle.

33. (currently amended): A liquid crystal display element,

which is obtainable by using ~~at least one of~~ the sealant for a liquid crystal display element according to claim 30~~, the end-sealant for a liquid crystal display element according to claim 31 and the transfer material for a liquid crystal display element according to claim 32~~.

34. (original): A liquid crystal display element,

wherein a pair of transparent substrates with an alignment layer formed respectively at least partially in one face are placed opposite to set the faces with the alignment layer formed respectively on the opposite to each other in a certain gap via a sealant formed to surround a peripheral part of the outer circumference, and a liquid crystal material is enclosed in a space formed by the transparent substrates and the sealant, and the alignment layer and the sealant are not brought into contact with each other.

35. (new): A liquid crystal display element, which is obtainable by using the end-sealant for a liquid crystal display element according to claim 31.

36. (new): A liquid crystal display element, which is obtainable by using the transfer material for a liquid crystal display element according to claim 32.